IN THE CLAIMS:

The text of all pending claims are set forth below. Cancelled and withdrawn claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (PREVIOUSLY AMENDED), (previously amended), (cancelled), (withdrawn), (new), (previously added), (reinstated - formerly claim #), (previously reinstated), (re-presented - formerly dependent claim #) or, (previously re-presented).

Please AMEND the claims in accordance with the following:

1. (CURRENTLY AMENDED) A method for acceleration and deceleration control for supplying a movement command ~~which has been subjected to~~ during cycles of acceleration and deceleration processing to a servo control section controlling axial movement of axes, the method comprising:

determining accelerations by, for each cycle in said acceleration and deceleration processing, determining each acceleration in accordance with a speed obtained at a previous processing cycle, such that a speed-acceleration curve generated by movement commands which are made by the acceleration and deceleration processing will lie along a predetermined speed-acceleration curve, where the predetermined speed-acceleration curve is set for each axis, where said predetermined speed-acceleration curve has different acceleration magnitudes for a given speed magnitude depending whether an axis is accelerating or decelerating, ~~and~~ where the predetermined speed-acceleration curve is predetermined before the generated movement commands, and where for plural speeds of the speed-acceleration curve, corresponding plural predetermined accelerations (or corresponding plural predetermined decelerations) of the speed-acceleration curve are based on, or equal to, or approximations of corresponding plural accelerations (or decelerations) of a restricted acceleration curve for the corresponding axis.

2. (PREVIOUSLY AMENDED) The method for acceleration and deceleration control according to claim 1, wherein said speed-acceleration curve provides a different acceleration

magnitude for each direction of movement.

3. (CANCELLED)

4. (CANCELLED)

5. (PREVIOUSLY AMENDED) A numerical control device, comprising:

a memory for storing, for control axes, individual speeds in acceleration and corresponding predetermined restricted accelerations and also storing individual speeds in deceleration and corresponding predetermined restricted decelerations, in the form of a predetermined table;

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acceleration-deceleration determination means for determining as to whether or not an acceleration operation should be done, an operation of a command speed should be done or a deceleration operation should be done, for an axis, in a present processing cycle:

speed determination means for determining speeds in the present processing cycle, by using a speed in the present processing cycle as a command speed in the case where said acceleration-deceleration determination means decided that an operation of a command speed be applied, by reading from said memory a predetermined restricted acceleration corresponding to the speed of said axis obtained in the previous processing cycle to determine a speed in the present processing cycle using said restricted acceleration thus read in the case where said acceleration-deceleration determination means decided that acceleration be applied, or by reading from said memory a restricted deceleration corresponding to the speed of said axis obtained in the previous processing cycle to determine a speed in the present processing cycle using said restricted deceleration thus read in the case where said acceleration-deceleration determination means decided that deceleration be applied; and

output means for finding data on an amount of movement of said axis in the present processing cycle by using the speed found by said speed determination means, and then outputting said data on the amount of movement to a servo control system for said axis.

6. (CURRENTLY AMENDED) A method for ~~implanting~~ implementing a movement instruction of an axis, comprising:

providing a speed-to-acceleration mapping that maps speed values to acceleration values based on a direction of movement ~~of a robot~~ and a direction of acceleration ~~of the robot~~; and

over a sequence of movement cycles for performing the movement instruction during acceleration or deceleration, determining a given movement for a cycle by using the speed-to-acceleration mapping to map a speed of a previous cycle to an acceleration value and using the acceleration value for the given movement cycle, where accelerations of at least a segment of the speed-to-acceleration mapping coincide with, or approximate, or are based on accelerations of a corresponding segment of a restricted acceleration mapping of the axis.

7. (CANCELLED)

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8. (CURRENTLY AMENDED) A method for acceleration/deceleration control for supplying a movement command which has been subjected to cycles of acceleration/deceleration processing to a servo control section controlling axial movement of axes, the method comprising:

determining accelerations/decelerations for the movement command by, for each cycle in said acceleration/deceleration processing, determining each acceleration/deceleration in accordance with a speed ~~obtained at~~of a previous processing cycle and in accordance with a pre-determined speed-acceleration curve, where the predetermined speed-acceleration curve is set for each axis, ~~and~~ where the predetermined speed-acceleration curve is predetermined before the determining of the accelerations/decelerations, and where at least a segment of the speed-acceleration curve is equal to, or approximates, or is based on a corresponding segment of an acceleration-restriction curve of the axis being moved.

9. (NEW) A method according to claim 1, wherein the speed acceleration curve is based on a motor output torque, machine friction, and gravity.